



## Seagull Environmental Technologies, Inc.

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January 4, 2011

Mr. Howard Pham  
STAT Project Officer  
U.S. Environmental Protection Agency, Region 5  
Superfund Division  
77 W. Jackson Boulevard  
Chicago, Illinois 60604

**Subject: Work Plan for the Chemetco Superfund Site  
Hartford, Illinois  
CERCLIS ID: ILD048843809  
EPA Region 5, STAT Contract No. EP-S5-10-01, Task Order No. EP-DT05-00003  
Task Monitor: Michelle Kerr, EPA Region 5 Remedial Project Manager**

Dear Mr. Howard Pham:

Seagull Environmental Technologies Inc. (Seagull) is submitting the attached Work Plan for the Chemetco Superfund Site in Hartford, Illinois. If you have any questions or comments, please contact the STAT Program Manager at (913) 908-4697.

Sincerely,

Hieu Q. Vu, PE  
STAT Program Manager

Enclosures

**WORK PLAN**

for the

**CHEMETCO SUPERFUND SITE  
HARTFORD, ILLINOIS**

**CERCLIS ID No. ILD048843809**

Prepared For:

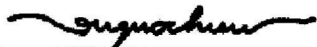
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Prepared By:

Seagull Environmental Technologies, Inc.  
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Overland Park, Kansas 66213

Contract Number: EP-S5-10-01  
Task Order Number: EP-DT05-00003

APPROVED BY:



Hieu Q. Vu, PE, STAT Program Manager

January 4, 2011

Date



Lynn Parman, PG, CHMM, STAT QA/QC Manager

January 4, 2011

Date



Ryan Lunt, STAT Project Manager

January 4, 2011

Date

Howard Pham, EPA Region 5 Project Officer

Date

Michelle Kerr, EPA Region 5 Task Order Project Officer

Date



## CONTENTS

<u>Section</u>	<u>Page</u>
1.0 INTRODUCTION .....	1
2.0 BACKGROUND .....	1
3.0 SCOPE OF WORK.....	1
3.1 PROJECT PLANNING .....	2
3.2 DATA ACQUISITION.....	3
3.3 DATA VALIDATION .....	3
3.4 DATA EVALUATION .....	3
3.5 HANDLING OF INVESTIGATION-DERIVED WASTE .....	3
3.6 RECORD KEEPING .....	3
3.7 PROJECT CLOSEOUT.....	4
4.0 REFERENCES .....	4

## ATTACHMENTS

### Attachment

- A HEALTH AND SAFETY PLAN
- B SAMPLING AND ANALYSIS PLAN
- C FIELD SAMPLING PLAN

## TABLES

<u>Table</u>	<u>Page</u>
1 PROJECT STAFFING.....	2
2 SCHEDULE FOR PROJECT DELIVERABLES .....	2

## **1.0 INTRODUCTION**

Under the U.S. Environmental Protection Agency (EPA) Region 5 Superfund Technical Assistance Team (STAT) contract (No. EP-S5-10-01), Task Order No. EP-DT05-00003, Seagull Environmental Technologies, Inc. (Seagull) was tasked to conduct soil; groundwater; surface water and surface wipe sampling at the Chemetco Superfund Site in Hartford, Illinois. This sampling activity is being conducted to confirm Illinois EPA's assessment of immediate risks to human health and environment, scope the Remedial Investigation (RI) and build EPA's enforcement case against potentially responsible parties (PRPs) for the site.

## **2.0 BACKGROUND**

Chemetco, located approximately two miles south of the Hartford, Madison County, Illinois, was a secondary copper smelter operation which operated from 1969 to 2001. The former smelter property included more than 230 acres of land, but operated on 41 acres. Chemetco's major function was recycling or secondary processing of copper-bearing scrap and manufacturing residues. Approximately 452,254 cubic yards (yds<sup>3</sup>) of waste slag material have been stockpiled on the northeast corner of the facility property. Approximately 62,204 yds<sup>3</sup> of zinc oxide (scrubber sludge) have been identified in five separate areas on the Chemetco property, including a 2.5 acre concrete bunker located at the north end of the facility. Elevated levels of cadmium, copper and lead have been found in the waste slag material and the zinc oxide. Elevated levels of cadmium, copper and lead have been found in the sediments collected from the wetlands and Long Lake (downstream of Chemetco) (EPA 2010).

Chemetco Inc. filed for bankruptcy in 2001 and a Trustee was appointed by the U.S. Bankruptcy Court to liquidate its assets. The Estate of Chemetco fenced the 41 acres smelter operation area to secure the site. Contamination at the site was documented in the Preliminary Assessment/Expanded Site Inspection conducted by Illinois EPA. The site was placed on the National Priorities List on March 2, 2010, and the response lead is transitioning to U.S. EPA (EPA 2010). Since December 2001, the Chemetco site has been sealed by the Illinois Environmental Protection Agency (IEPA), and the Seal Order currently applies to all entrants to the site except authorized personnel.

## **3.0 SCOPE OF WORK**

To achieve the project objective, approximately three soil samples will be collected from residential yards and three groundwater samples will be collected from private drinking water wells within one mile radius

of the site; two groundwater samples will be collected from a well located onsite; three surface water samples will be collected - from Long Lake (south of the site), the storm water basin, and storm water outfall; eight soil samples and two surface wipe samples will be collected onsite and offsite; and four groundwater samples will be collected from temporary monitoring wells located onsite and offsite. A Health and Safety Plan for the field activities has been developed by Seagull and is included as Attachment A.

### 3.1 PROJECT PLANNING

Seagull staff involved with the project will coordinate all field activities with EPA Region 5 personnel. In addition, Seagull will coordinate analytical services with the receiving laboratories, including submittal of an Analytical Confirmation Request form to EPA Region 5 prior to sample collection. Seagull will also procure all required sample containers, chemical preservatives, purified water for blank samples, expendable sampling supplies, and field equipment/instruments necessary to complete the field activities. Seagull will also ensure that access has been obtained to all proposed sample locations (to be coordinated by EPA Region 5 personnel) before field activities commence. The following table (Table 1) lists Seagull personnel who will be involved with the project:

**TABLE 1  
PROJECT STAFFING**

Seagull Personnel	Project Role
Hieu Q. Vu, PE	STAT Program Manager
Lynn Parman, PG, CHMM	QA/QC Manager/Data Reviewer
Ryan Lunt	Project Manager/Field Sampler
To be determined	Site Safety Officer/Field Sampler

A schedule for deliverables related to this sampling activity at the Chemetco Superfund Site is included in Table 2.

**TABLE 2  
SCHEDULE FOR PROJECT DELIVERABLES**

Deliverable	No. of Copies	Due Date
Work Plan	3	3 days after kick-off
Health and Safety Plan	3	3 days after receipt of task order
Sampling and Analysis Plan	3	5 days after receipt of task order

<b>Deliverable</b>	<b>No. of</b>	<b>Due Date</b>
Quality Assurance Project Plan	3	5 days after receipt of task order*
Field Sampling Plan	3	7 days after receipt of task order
Field Logs and Daily Diaries	7	3 days after sampling completed
Data Validation Report	3	Not required
Data Evaluation Report	3	45 days after all data reported
Return EPA-Related Files & Materials	NA	After all project activities and reports completed

\* A Generic Quality Assurance Project Plan was previously developed for the STAT contract.

### **3.2 DATA ACQUISITION**

Collection of field samples will be conducted in accordance with the attached Sampling and Analysis Plan (see Attachment B). A summary of the field samples anticipated to be collected for this activity is included in Attachment C. Once EPA Region 5 has obtained access to the sampling locations, the Estate of Chemetco Bankruptcy Trustee will be contacted by EPA Region 5 Remedial Project Manager Michelle Kerr.

### **3.3 DATA VALIDATION**

No data validation/report will be required from Seagull for this project, as specified in the project-specific Statement of Work from EPA Region 5.

### **3.4 DATA EVALUATION**

A Data Evaluation Report will be prepared by Seagull for non-Contract Laboratory Program (CLP) data and delivered to EPA within 45 days after those analytical data have been reported.

### **3.5 HANDLING OF INVESTIGATION-DERIVED WASTE**

All purged water from sampled wells will be discharged to the ground surface at those respective well locations. All used sampling supplies (gloves, etc.) will be disposed of off site as non-contaminated waste.

### **3.6 RECORD KEEPING**

During field activities, Seagull personnel will document sample-related information on field sheets and in a field logbook. Sample-related information will also be entered into FORMS II Lite. Analytical data will be delivered to EPA Region 5 as Electronic Data Deliverables (EDD) and Superset EDDs. Copies of

field notes, analytical results, EDDs, and other relevant documents will be delivered to Michelle Kerr, EPA Region 5 Remedial Project Manager.

### **3.7 PROJECT CLOSEOUT**

Relevant site-related documents and files will be returned to EPA Region 5 following completion of all field activities and submittal of final reports.

### **4.0 REFERENCES**

U.S. Environmental Protection Agency (EPA). 2010. NPL Fact sheet for the Chemteco Superfund Site, Hartford, Illinois. December.  
<http://www.epa.gov/region5superfund/npl/illinois/ILD048843809.htm>

**ATTACHMENT A**  
**HEALTH AND SAFETY PLAN**



## SEAGULL ENVIRONMENTAL TECHNOLOGIES, INC.

### HEALTH AND SAFETY PLAN

#### A. SITE DESCRIPTION

Site Name:	Chemetco Superfund Site	Project Number:	EP-DT05-00003
Location:	Hartford, Illinois	Telephone:	913.633.7139
Site Contact:	Ryan Lunt	Telephone:	312.886.8961
Client Contact:	Michelle Kerr	Date Prepared:	January 4, 2011
Prepared By:	Ryan Lunt	Emergency Response:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Dates of Activities:	January 10-12, 2011		

#### B. SCOPE OF WORK

##### Site Objectives:

This sampling activity is being conducted to confirm Illinois EPA's assessment of immediate risks human health and environment, scope the Remedial Investigation (RI), and build EPA's enforcement case against potentially responsible parties (PRPs) for the site. To achieve the project objective, approximately three soil and groundwater samples will be collected from residential yards and private drinking water wells within one mile radius of the site; two groundwater samples will be collected from wells located onsite; three surface water samples will be collected - from Long Lake (south of the site), the storm water basin, and outfall; eight soil samples will be collected onsite and offsite; two surface wipe samples will be collected offsite; and four groundwater samples will be collected from temporary monitoring wells located onsite and offsite.

##### Project Scope of Work and Background:

The project scope of work is to collect soil, surface wipe, surface water and groundwater samples from the Chemetco site and surrounding area.

Chemetco, located approximately two miles south of the Hartford, Madison County, Illinois, was a secondary copper smelter which operated from 1969 to 2001. Approximately 452,254 cubic yards of waste slag material have been stockpiled on the northeast corner of the facility property. Approximately 62,204 cubic yards of zinc oxide (scrubber sludge) have been identified as being located in five separate areas on the Chemetco property. Elevated levels of cadmium, copper and lead have been found on site.

#### C. ON-SITE ORGANIZATION AND COORDINATION

The Project Manager has overall responsibility for all activities on site, including implementation of the site safety plan. The Project Manager may delegate this function to the Site Safety Officer. The Site Safety Officer is responsible for ensuring that work crews comply with all site safety and health requirements. All site employees are responsible for understanding and complying with this Site Safety Plan.

The following personnel are designated to carry out the stated job functions on site.

(Note: One person may carry out more than one job function.)

Project Manager:	Ryan Lunt	Telephone:	913.633.7130
Safety Officer:	Jeff Pritchard	Telephone:	913.220.5887



### **C. SITE LAYOUT**

The on-site Command Post and staging area will be located upwind from all work activities.  
This area will be dependent on wind direction daily.

#### Exclusion Zone Location and Method to Identify:

The exclusion zone should extend in all directions and will be properly identified on site-specific basis. The exclusion zone location can be determined in the field if necessary.

NOTE: Keep 500 feet maximum distance away for unknown sites until the identity of materials is determined.

#### CRZ (decontamination area) Location and Method to Identify:

The entire Chemetco property will act as the CRZ. Seagull personnel will also wear the proper personal protective equipment (PPE) during site activities.





### D. HAZARD EVALUATION Present and Suspected Material Hazards

Materials Present or Suspected	Highest Observed Concentration	Exposure Limits	Primary Hazard of Material	Symptoms and Effects of Acute Exposure
Metals- (i.e. Lead and Arsenic)	N/A	PEL = Lead 50 µg/ m <sup>3</sup> ; Arsenic 10 µg/ m <sup>3</sup> REL = TLV = IDLH =	Toxic	Neurological
TPH-DROS	N/A	PEL = REL = TLV = 300 ppm IDLH =	Irritation, carcinogenic	Eye, nose, and throat irritation; headaches, loss of coordination, nausea; damage to liver, kidney, and central nervous system.
VOCs	N/A	PEL = REL = TLV = 1 ppm IDLH =	Irritation	Eye, nose, and throat irritation; headaches, loss of coordination, nausea; damage to liver, kidney, and central nervous system.

Note: In the Exposure Limit column, include Ceiling (C) and Short-Term Exposure Limits (STEL) if they are available. Also, use the following short forms and abbreviations to complete the table above.

A = Air  
 CARC = Carcinogenic  
 ev = Electron volt  
 U = Unknown  
 IDLH = Immediately dangerous to life or health  
 mg/m<sup>3</sup> = Milligram per cubic meter  
 NA = Not available  
 NE = None established  
 PEL = Permissible exposure limit  
 ppm = Part per million  
 REL = Recommended exposure limit  
 S = Soil  
 TLV = Threshold limit value



### Site Conditions, Hazards, and Concerns

Wind Speed and Direction		Temperature (°F)		Relative Humidity (%)		Probability of Precipitation (%)		Weather Forecast	
Speed (mph):	From Direction:								
On-Site Supplies: <input checked="" type="checkbox"/> First Aid Kit <input checked="" type="checkbox"/> Fire Extinguisher		<input type="checkbox"/> Air Horn		<input type="checkbox"/> Oral Thermometer		<input type="checkbox"/> Noise Dosimeter			
<b>Known or Anticipated Site Hazards and Concerns:</b>									
<input checked="" type="checkbox"/> Work on active roadway	<input type="checkbox"/> Organic chemicals	<input type="checkbox"/> Respirable silica							
<input checked="" type="checkbox"/> Overhead utilities	<input type="checkbox"/> Lift (man lift, cherry picker) use	<input checked="" type="checkbox"/> Construction work							
<input type="checkbox"/> Energized electrical systems	<input type="checkbox"/> Driving commercial vehicles	<input checked="" type="checkbox"/> Client-specific safety requirements (attach to HASP)							
<input type="checkbox"/> Onsite laboratory	<input type="checkbox"/> Chemical warfare materiel	<input type="checkbox"/> Blasting and explosives							
<input checked="" type="checkbox"/> Surface or underground storage tanks	<input type="checkbox"/> Scaffold use	<input type="checkbox"/> Excavation or trenching							
<input type="checkbox"/> Portable hand tool use	<input type="checkbox"/> Driving personal vehicles	<input type="checkbox"/> ATV use							
<input type="checkbox"/> Explosion or fire hazard	<input type="checkbox"/> Compressed Gas Cylinders	<input type="checkbox"/> Non-ionizing radiation (lasers, radiofrequencies, UV)							
<input checked="" type="checkbox"/> General slips, trips, falls	<input type="checkbox"/> Wood or metal ladder use	<input type="checkbox"/> Benching, shoring, bracing							
<input checked="" type="checkbox"/> Portable electrical tool use	<input type="checkbox"/> Scientific diving operations	<input type="checkbox"/> Methamphetamine lab							
<input type="checkbox"/> Oxygen deficiency	<input type="checkbox"/> Asbestos	<input type="checkbox"/> High Noise							
<input checked="" type="checkbox"/> Uneven, muddy, rugged terrain	<input type="checkbox"/> Dangerous goods shipped by air	<input type="checkbox"/> Work in strip or shaft mines							
<input type="checkbox"/> Machine guarding	<input type="checkbox"/> Injury and Illness Prevention Program (California only)	<input type="checkbox"/> Mold							
<input type="checkbox"/> Inorganic chemicals	<input checked="" type="checkbox"/> Respirable particulates	<input checked="" type="checkbox"/> Buried Utilities							
<input type="checkbox"/> Industrial truck (forklift) use	<input type="checkbox"/> Elevated work (over 6' high)	<input type="checkbox"/> Grinding operations							
<input checked="" type="checkbox"/> Portable fire extinguisher use	<input type="checkbox"/> Ergonomics (California only)	<input type="checkbox"/> Other (insert)							
Explosive or Fire Potential:		<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input checked="" type="checkbox"/> Low	<input type="checkbox"/> Unknown				



### Task Specific Hazards, Control Measures and Personal Protective Equipment

Task Description:	Hazards	Sources	Control Measures	Level of Protection	
				Primary	Contingency
1. Site Survey – Drive around and verify sampling locations and utilities	Other vehicles present on site	Vehicle	Awareness of surrounding Environment	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input checked="" type="checkbox"/> D	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input checked="" type="checkbox"/> D
2. Geoprobe groundwater sampling	Equipment	Geoprobe	Proper PPE	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input checked="" type="checkbox"/> D	<input type="checkbox"/> A <input type="checkbox"/> B <input checked="" type="checkbox"/> C <input type="checkbox"/> D
3. On site sampling	Unstable structures, uneven terrain	Onsite Buildings and ground	Awareness of surrounding Environment	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input checked="" type="checkbox"/> D	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input checked="" type="checkbox"/> D
4.				<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
5.				<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
6.				<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
7.				<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D

### Personal Protective Equipment

Task Number	Primary Level of Protection	PPE Component Description (Primary)	Contingency Level of Protection	PPE Component Description (Contingency)
1	D	Respirator type: N/A Cartridge type (if applicable): N/A CPC material: Tychem Glove material(s): Nitrile Boot material: Steel-toed boots Other: First Aid Kit, Safety Glasses	C	Respirator type: Half-face APR-If needed Cartridge type (if applicable): Particulate CPC material: Tychem Glove material(s): Nitrile Boot material: Steel-toed boots Other: First Aid Kit
2	D	Respirator type: N/A Cartridge type (if applicable): N/A CPC material: Tychem Glove material(s): Nitrile Boot material: Steel-toed boots Other: First Aid Kit, Safety Glasses	C	Respirator type: Half-face APR-If needed Cartridge type (if applicable): Particulate CPC material: Tychem Glove material(s): Nitrile Boot material: Steel-toed boots Other: First Aid Kit
3	D	Respirator type: N/A Cartridge type (if applicable): N/A CPC material: Tychem	C	Respirator type: Half-face APR-If needed Cartridge type (if applicable): Particulate CPC material: Tychem



Task Number	Primary Level of Protection	PPE Component Description (Primary)	Contingency Level of Protection	PPE Component Description (Contingency)
		Glove material(s): Nitrile Boot material: Steel-toed boots Other: First Aid Kit, Safety Glasses		Glove material(s): Nitrile Boot material: Steel-toed boots Other: First Aid Kit
4				
5				





## E. DECONTAMINATION PROCEDURES

Decontamination Procedures	
The site safety coordinator oversees implementation of project decontamination procedures and is responsible for ensuring they are effective.	
<b>Personnel Decontamination</b> Level D Decon - <input type="checkbox"/> Wet <input checked="" type="checkbox"/> Dry Level C Decon - <input type="checkbox"/> Wet <input checked="" type="checkbox"/> Dry Level B Decon - Briefly outline the level B decontamination methods to be used on a separate page attached to this HASP. Level A Decon - A Level 3 HASP is required. Notify your regional health and safety representative and health and safety director.	<b>Decontamination Equipment</b> <input type="checkbox"/> Washtubs <input checked="" type="checkbox"/> Buckets <input checked="" type="checkbox"/> Scrub brushes <input type="checkbox"/> Pressurized sprayer <input type="checkbox"/> Detergent [Type] <input type="checkbox"/> Solvent [Type] <input type="checkbox"/> Household bleach solution Concentration/Dilution: _____ <input type="checkbox"/> Deionized water <input checked="" type="checkbox"/> Disposable sanitizer wipes <input type="checkbox"/> Facemask sanitizer powder <input checked="" type="checkbox"/> Wire brush <input type="checkbox"/> Spray bottle <input type="checkbox"/> Tubs / pools <input type="checkbox"/> Banner/barrier tape <input type="checkbox"/> Plastic sheeting <input type="checkbox"/> Tarps and poles <input checked="" type="checkbox"/> Trash bags <input type="checkbox"/> Trash cans <input checked="" type="checkbox"/> Duct tape <input checked="" type="checkbox"/> Paper towels <input type="checkbox"/> Folding chairs <input type="checkbox"/> Other
<b>Equipment Decontamination</b> All tools, equipment, and machinery from the Exclusion Zone (hot) or Contamination Reduction Zone (warm) are decontaminated in the CRZ before they are removed to the Support Zone (cold). Equipment decontamination procedures are designed to minimize the potential for hazardous skin or inhalation exposure, cross-contamination, and chemical incompatibilities.	
<b>Respirator Decontamination</b> Respirators are decontaminated in compliance with SWP 6-27 and should be included with this HASP.	
<b>Waste Handling for Decontamination</b> Procedures for decontamination waste disposal meet all applicable local, state, and federal regulations.	



## F. EMERGENCY RESPONSE PLAN AND CONTACTS LIST

### Emergency Contacts

Work Care and Incident Intervention	(800) 455.6155
U.S. Coast Guard National Response Center	(800) 424.8802
InfoTrac	(800) 535.5053
Fire department	402-441.8373 or 911
Police department	402-441.7204 or 911

### Personnel Call-Down List:

Job Title or Position:	Name	Primary Phone:
Regional Safety Officer	Gretchen Lynch	720.317.3999
Project Manager:	Ryan Lunt	913.633.7139
Site Safety Coordinator (SSC):	Jeff Pritchard	913.220.5887
Subcontractor SSC:		

### Medical and Site Emergencies:

Signal a site or medical emergency with three blasts of a loud horn (car horn, fog horn, or similar device). Site personnel should evacuate to the area of safe refuge designated on the site map.

Hospital Name:	Alton Memorial Hospital
Address:	One Memorial Drive Alton, Illinois 62002
General Phone:	618.463.7311
Emergency Phone:	911
Ambulance Phone:	911

Hospital called to verify emergency services are offered? YES ☒ NO ☐

Step-by-step Route to Hospital: (see Page 10 of 12 for route map):

Take the 1st RIGHT onto IL-3 N. <i>If you are on OLDENBURG RD and reach LEVEE RD you've gone about 1.2 miles too far</i>	5.5 mi
Turn SLIGHT RIGHT onto HOMER M ADAMS PKWY/IL-3 N. <i>HOMER M ADAMS PKWY is 0.1 miles past VIRGINIA AVE</i>	1.3 mi
Take the IL-140/IL-111/COLLEGE AVE ramp toward BETHALTO.	0.4 mi
Take the IL-140 ramp toward ALTON.	0.06 mi
Turn LEFT onto COLLEGE AVE/IL-140 W. Continue to follow COLLEGE AVE. <i>If you reach HOMER M ADAMS PKWY you've gone about 0.2 miles too far</i>	1.5 mi
Turn LEFT onto ROCK SPRINGS DR. <i>ROCK SPRINGS DR is 0.2 miles past HUMBERT ST</i>	0.2 mi
Take the 1st RIGHT onto MEMORIAL DR. <i>If you reach BROWN ST you've gone about 0.2 miles too far</i>	0.01 mi
1 MEMORIAL DR is on the LEFT. <i>If you reach BROWN ST you've gone about 0.5 miles too far</i>	



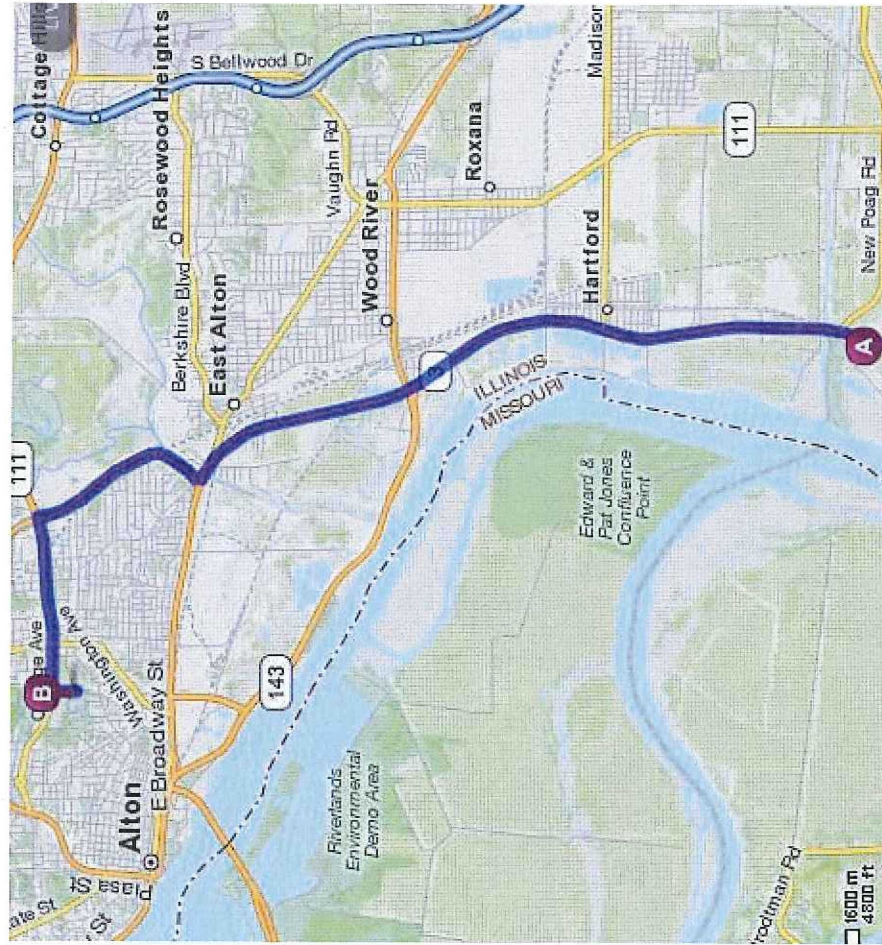
Site Map:







## Hospital Route Map:







## **G. EMPLOYEE TRAINING**

All Field employees receive 40 hours of classroom training on various health and safety topics regarding hazardous waste sites in accordance with 29 CFR 1910.120. Topics include:

Regulatory Compliance (OSHA, EPA, DOT)	Noise Stress
Toxicology	Heat/Cold Stress
Flammables	Ionizing Radiation
Corrosives Reactions	Drum Handling
Respiratory Protection	Confined Space Entry
Personal Protective Clothing	Decontamination
Environmental Monitoring	Medical Surveillance
Site Safety Plans	Hazard Communication
Contingency Plans	

Annually thereafter, all field employees receive 8 hours of refresher training on the above topics.

Managers and Supervisors receive an additional 8 hours of training on safe management of hazardous waste sites. All training complies with 29 CFR 1910.120. All field employees receive initial and recertification training in first aid and CPR. All training is documented and kept on file at SETI's corporate office. Copies of certifications are also located on each job site.

Site-specific health and safety issues are discussed at the beginning of each job. Daily safety meetings are conducted at the site and documented.

## **H. MEDICAL SURVEILLANCE**

Pre-employment and periodic medical examinations are required under 29 CFR 1910.120 for persons working at hazardous waste sites. The medical examination must have been completed within 12 months prior to on-site activity and repeated annually. A licensed physician issues a written opinion that the worker is fit to perform at hazardous waste sites and able to wear respiratory protection. Workers are informed of their right to accessibility of medical records.

## **I. HAZARD COMMUNICATION**

In accordance with 29 CFR 1910.1200, all site workers working with hazardous materials are provided with adequate information regarding their dangers and precautions. Containers of hazardous materials must be properly labeled and MSDSs be kept on site. Workers will be briefed on the information included in the MSDSs as part of the site-specific safety meetings.



**Project No.:** EP-DT05-00003

I have read, understood, and agree with the information set forth in this Health and Safety Plan and will follow the direction of the Site Safety Coordinator (SSC) as well as procedures and guidelines established in the Seagull Environmental Technologies, Inc., Health and Safety Manual. I understand the training and medical requirements for conducting field work and have met these requirements.

[illegible]

*I have read, understood, and agree with the information set forth in this Health and Safety Plan and comply with and will enforce this HASP, as well as procedures and guidelines established in the Seagull Environmental Technologies, Inc., Health and Safety Manual.*

Name	Project-Specific Position	Signature	Date
Ryan Lunt	Project Manager		
Kirk Mammoliti	Site Safety Coordinator		
Jeff Pritchard	Subcontractor SSC		

*Seagull has prepared this plan solely for the purpose of the health and safety protection of Seagull employees. Subcontractors, visitors, and others at the site, while required to read and follow the provisions outlined in this plan at a minimum, should refer to their safety program for specific information related to their health and safety protection.*

**Note:** Use Additional sheets as necessary to ensure that all personnel sign and affirm this document.

**ATTACHMENT B**

**SAMPLING AND ANALYSIS PLAN**

**SAMPLING AND ANALYSIS PLAN**

for the

**CHEMETCO SUPERFUND SITE  
HARTFORD, ILLINOIS**

**CERCLIS ID No. ILD048843809**

Prepared For:

U.S. Environmental Protection Agency Region 5  
Superfund Division  
77 W. Jackson Boulevard  
Chicago, Illinois 60604

Prepared By:

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## CONTENTS

<u>Section</u>	<u>Page</u>
1.0 INTRODUCTION .....	1
2.0 SITE LOCATION AND DESCRIPTION .....	1
3.0 SAMPLING STRATEGY AND METHODOLOGY .....	1
3.1 SOIL SAMPLES.....	2
3.2 SURFACE WIPE SAMPLES.....	2
3.3 GROUNDWATER SAMPLES .....	3
3.4 SURFACE WATER SAMPLES .....	4
3.5 QUALITY CONTROL SAMPLES.....	4
4.0 ANALYTICAL METHODS .....	5
5.0 REFERENCES .....	6

## APPENDICES

### Appendix

A	FIGURES
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## TABLES

<u>Table</u>	<u>Page</u>
1	SAMPLE CONTAINERS AND PRESERVATIVES .....

## **1.0 INTRODUCTION**

Under the U.S. Environmental Protection Agency (EPA) Region 5 Superfund Technical Assistance Team (STAT) contract (No. EP-S5-10-01), Task Order No. EP-DT05-00003, Seagull Environmental Technologies, Inc. (Seagull) was tasked to conduct soil, surface wipe, surface water and groundwater sampling at the Chemetco Superfund Site in Hartford, Illinois. The site was a former secondary copper smelter operation which operated from 1969 to 2001. This Sampling and Analysis Plan (SAP) identifies site-specific elements of the sampling strategy and analytical methods proposed for the sampling to be conducted by Seagull in January 2010. The SAP accompanies a generic Quality Assurance Project Plan (QAPP) for the EPA Region 5 STAT contract, previously prepared by Seagull and approved by EPA Region 5 in February 2010.

## **2.0 SITE LOCATION AND DESCRIPTION**

The Chemetco Superfund Site is located in Hartford, Madison County, Illinois (see Appendix A, Figure 1). The site encompasses 41 acres, is currently owned by the Estate of Chemetco, and is no longer in operation. The site is located in a primarily industrial area, with interspersed farmland and undeveloped pastureland. Most drinking water in the area is supplied by private wells or Hartford, IL municipal. The site is located about 0.5 miles east of the Mississippi River (see Appendix A, Figure 2).

## **3.0 SAMPLING STRATEGY AND METHODOLOGY**

To achieve the project objective, soil, surface wipe, groundwater, and surface water samples will be collected in the study area for laboratory analysis, as described in this SAP. The sampling activities, which will be conducted after access to locations of interest has been obtained by EPA Region 5, will require two to three Seagull personnel. Sampling will be conducted in accordance with approved standard operating procedures (SOP) and methods referenced in the generic QAPP, and will entail collection of approximately two surface wipe samples, three surface water samples, eight surface soil samples and nine groundwater samples. It is anticipated that three soils will be collected from residential yards and three groundwater samples will be collected from private wells within one mile radius of the site. Two soil and surface wipe samples will be collected at the Lewis and Clark Historic Center. Four groundwater samples will be collected from temporary monitoring wells. Three surface water samples will be collected from Long Lake (south of the site), the storm water basin, and outfall. EPA Region 5 personnel will select all sample locations.

The SOPs and chain-of-custody procedures referenced in the QAPP will be followed throughout the sampling activities to verify that integrity of the samples is maintained from the time of collection until they are submitted to the laboratories for analysis. New disposable nitrile gloves will be worn during collection of each sample. Sampling methods to be used during this field activity are described in Sections 3.1 and 3.2, and will be conducted in accordance with the Contract Laboratory Program Guidance for Field Samplers (EPA 2007).

### **3.1 SOIL SAMPLES**

To determine the extent of contamination, soil samples will be collected from the facility and surrounding area of the site (see Appendix A, Figure 3).

The soil samples to be collected outside the facility (CS-5, CS-6, CS-7, CS-9, and CS-10) will be taken 150 feet from the fence line except CS-8 which will be collected 250 feet from the fence. All residential soil samples will be collected from the front yard. Each sample will be a five-point composite with 10 feet between each point, except the center point which will be 7 feet from each of the upper right and lower left corners. The soil sample will be collected using a spoon, from ground surface to 3 inches below the ground surface (bgs). The soil from each point will be placed in a disposable aluminum pie pan for homogenization. The soil samples will be transferred to an 8 ounce jar to be submitted for analysis of metals including mercury and cyanide. Sample containers and preservatives are summarized on Table 1.

Other pertinent data, including property ownership information and exact sample locations, will be recorded. All soil samples will be cooled to a temperature of less than 4 degrees Celsius following collection until submittal for laboratory analysis. Sample containers and preservatives are summarized on Table 1.

### **3.2 SURFACE WIPE SAMPLES**

Two surface wipe samples will be collected from picnic tables at the Lewis and Clark Historical site (see Appendix A, Figure 3). The wipe samples will be collected using a wipe material (i.e. sterile gauze pad) which will be wetted with deionized (DI) water. Each wipe sample will be collected from a 100-square-centimeter area and transferred to an 8 ounce jar to be submitted for analysis of metals, including mercury, and cyanide. At each surface wipe location, three separate wipes will be used for each parameter (metals, mercury, and cyanide). All wipes will be placed into an 8-oz jar and submitted to EPA



Region 5 Central Regional Laboratory (CRL).

### **3.3 GROUNDWATER SAMPLES**

To identify contamination, groundwater samples will be collected from one onsite well, three private drinking water wells, and four temporary Geoprobe® wells (see Appendix A, Figure 4). The groundwater water samples (excluding CW-1 and CW-2) will be submitted for analysis of volatile organic compounds (VOC), semi-volatile organic compounds (SVOC), metals (including mercury), and cyanide.

Groundwater samples CW-1 and CW-2 will only be analyzed for metals (including mercury) and cyanide.

Samples from private drinking and the onsite wells will be collected from taps/spigots located nearest the well heads, prior to any treatment systems. The system lines at the active wells will be purged for approximately 5 minutes before the samples are collected. Any well not currently in use will be purged for at least 15 minutes prior to sampling. Water quality parameters (pH, conductivity, and temperature) will be recorded on the field sheets after the well has been purged for the designated time.

Groundwater samples will also be collected from four temporary Geoprobe® wells. The four temporary Geoprobe® wells will be advanced about 5 feet into groundwater or to a maximum of 20 feet bgs.

Samples from these temporary wells will be collected with a Geoprobe® Screen Point 15 sampling apparatus containing either disposable, 4-foot-long, PVC screens or a Geoprobe® reusable stainless steel screen. At each location, the sampler will be advanced to the maximum depth (e.g., 20 feet bgs); then the screen will be exposed to the aquifer. After the screen is deployed at the bottom of the boring, a sample will be collected through disposable polyethylene tubing utilizing a check valve placed at the bottom of the tubing. The groundwater sampler and rods will be decontaminated between locations, and new tubing will be used at each well location.

Groundwater water samples to be submitted for analysis of VOC will be collected in three 40-milliliter glass vials and preserved with hydrochloric acid (HCl) to a pH less than 2. Water samples to be submitted for analysis of SVOC will be collected in 1-liter amber bottles (two per sample), while samples for analysis of metals (including mercury) and cyanide will be collected in 1-liter polyethylene bottles (two per sample). The samples for analysis of metals will be preserved with nitric acid (HNO<sub>3</sub>) to a pH less than 2, and the samples for analysis of cyanide will be preserved with sodium hydroxide (NaOH) to a pH above 12. Sample containers and preservatives are summarized on Table 1.



A field sheet will be completed for each sample. The field sheets will include the following information: water quality parameters (private and onsite wells only), purge times or estimated purge volumes, property ownership information, exact sample locations (depths and global positioning system coordinates), and analyses to be performed. All water samples will be stored in coolers maintained at or below a temperature of 4 °C pending submittal to the laboratory.

### 3.4 SURFACE WATER SAMPLES

Surface water samples will be collected from three locations on the site (see Appendix Figure 4). Water samples will be collected by immersing the sample containers directly into the water, wherever possible. Surface water will be submitted to the laboratory for analyses for total metals (including mercury and cyanide). Water samples submitted for analyses for analysis of metals (including mercury) and cyanide which will be collected in 1-liter polyethylene bottles (two per sample). Sample containers and preservatives are summarized on Table 1. The surface water samples will be stored in coolers maintained at or below 4 °C until they are submitted to the laboratory. Pertinent data, including analyses to be performed and sample location data, will be recorded on field sheets for each sample.

### 3.5 QUALITY CONTROL SAMPLES

For this sampling activity, one set of samples to assess the quality assurance (QA) and quality control (QC) of sampling activities will be collected/prepared for the residential well samples, and another set will be collected/prepared for the temporary monitoring well samples. Each set of QC samples will include extra sample volume for one matrix spike/matrix spike duplicate (for organic analyses only), one blind field duplicate, one trip blank (for VOC analysis only), and one field blank. Soil samples submitted for QA/QC will include extra volume for matrix spike and a field duplicate. In addition, a blank surface wipe sample(s) will be submitted for QA/QC purposes.

**TABLE 1**  
**SAMPLE CONTAINERS AND PRESERVATIVES**

Analysis	Containers	Preservatives
VOCs	40-milliliter glass vials (3)	HCl to pH < 2, cool to < 4 °C
SVOCs	1-liter amber bottles (2)	Cool to < 4 °C
Metals (including mercury)	1-liter polyethylene bottle (1) <sup>a</sup>	HNO <sub>3</sub> to pH < 2, cool to < 4 °C
Metals (including mercury) (Soil)	8 ounce Jar	Cool to < 4 °C

Analysis	Containers	Preservatives
Cyanide	1-liter polyethylene bottle (1)	NaOH to pH > 12, cool to < 4 °C
Cyanide (Soil)	8 ounce Jar	Cool to < 4 °C
Biological Oxygen Demand 5-day	1-liter polyethylene bottle (1)	Cool to < 4 °C
Chemical Oxygen Demand	1-liter polyethylene bottle (1)	Cool to < 4 °C
pH	NA	NA
Total Suspended Solids	1-liter polyethylene bottle (1)	Cool to < 4 °C
Oil and Grease	1-liter polyethylene bottle (1)	HCl to pH < 2, cool to < 4 °C
Total Nitrogen as NH <sub>3</sub>	1-liter polyethylene bottle (1)	NaOH to pH > 12, cool to < 4 °C
Flow	NA	NA

Notes:

HCl Hydrochloric acid  
 HNO<sub>3</sub> Nitric acid  
 NaOH Sodium hydroxide  
 NA Nonapplicable  
 SVOC Semi-volatile organic compound  
 VOC Volatile organic compound  
 °C Degrees Celsius  
 < Less than  
 > Greater than

#### 4.0 ANALYTICAL METHODS

All soil and surface wipe samples will be analyzed for medium-level Target Analyte List (TAL) metals (including mercury), and cyanide. All residential and temporary well water samples will be analyzed for VOCs, SVOCs, TAL metals (including mercury), and cyanide. Water samples collected from CW-1 and CW-2 will only be analyzed for TAL metals (including mercury) and cyanide. In addition, surface water collected from the storm water outfall (CW-8) will also be analyzed for the following parameters :

- Biological Oxygen Demand (BOD) 5-day
- Chemical Oxygen Demand (COD)
- pH
- Total Suspended Solids
- Oil and Grease
- Total Nitrogen as NH<sub>3</sub>
- Flow

All analyses will be conducted through EPA's Contract Laboratory Program (CLP) and EPA Region 5 CRL. All analyses will be conducted according to SOPs and methods described in the generic QAPP for the STAT contract. Appropriate containers and physical/chemical preservation techniques will be employed during the field activities to help verify that representative analytical results are obtained. Proper coordination with the receiving laboratories will be conducted to ensure no analytical holding

times are exceeded.

## **5.0 REFERENCES**

EPA. 2007. Office of Superfund Remediation and Technology Innovation. Contract Laboratory Program Guidance for Field Samplers. OSWER 9240.0-44. EPA/540/R-07/06. July.

## **APPENDIX A**

### **FIGURES**



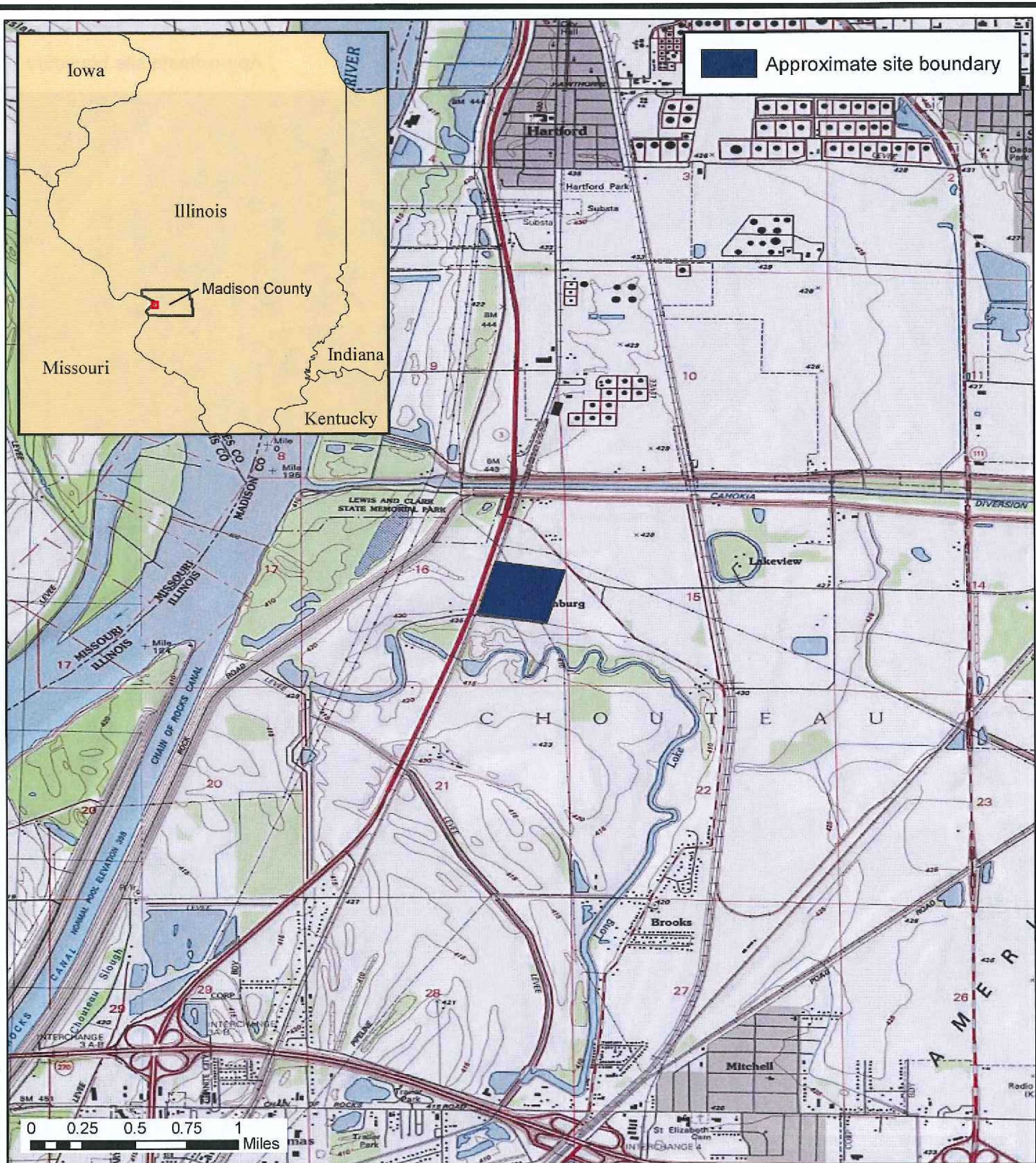
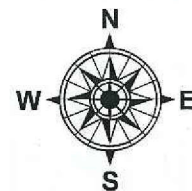


Figure 1  
Site Location Map



## Chemetco Superfund Site, Hartford, Illinois

Seagull Environmental Technologies, Inc.



Source: U.S. Geological Survey



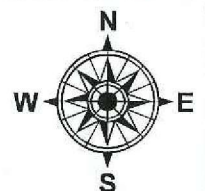


Figure 2  
Site Aerial Map



**Chemetco Superfund Site, Hartford, Illinois**

Seagull Environmental Technologies, Inc.



Source: U.S. Geological Survey

Date: December 2010

Project No: EPDTO5.00003



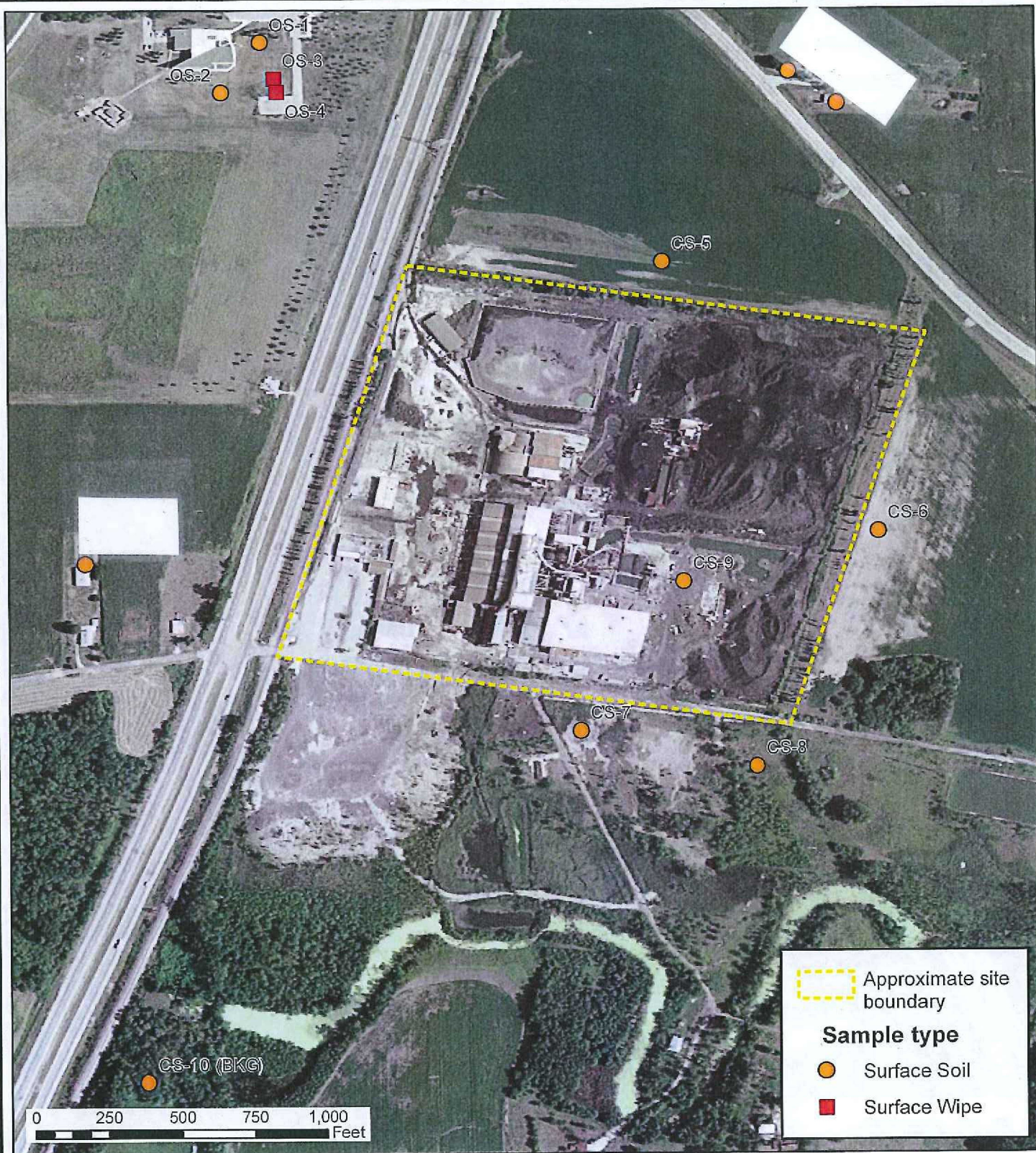


Figure 3  
Soil and Surface Wipe Sampling Map

**Chemetco Superfund Site, Hartford, Illinois**

Seagull Environmental Technologies, Inc.

Source: U.S. Geological Survey

Date: December 2010

Project No: EPDTO5.00003





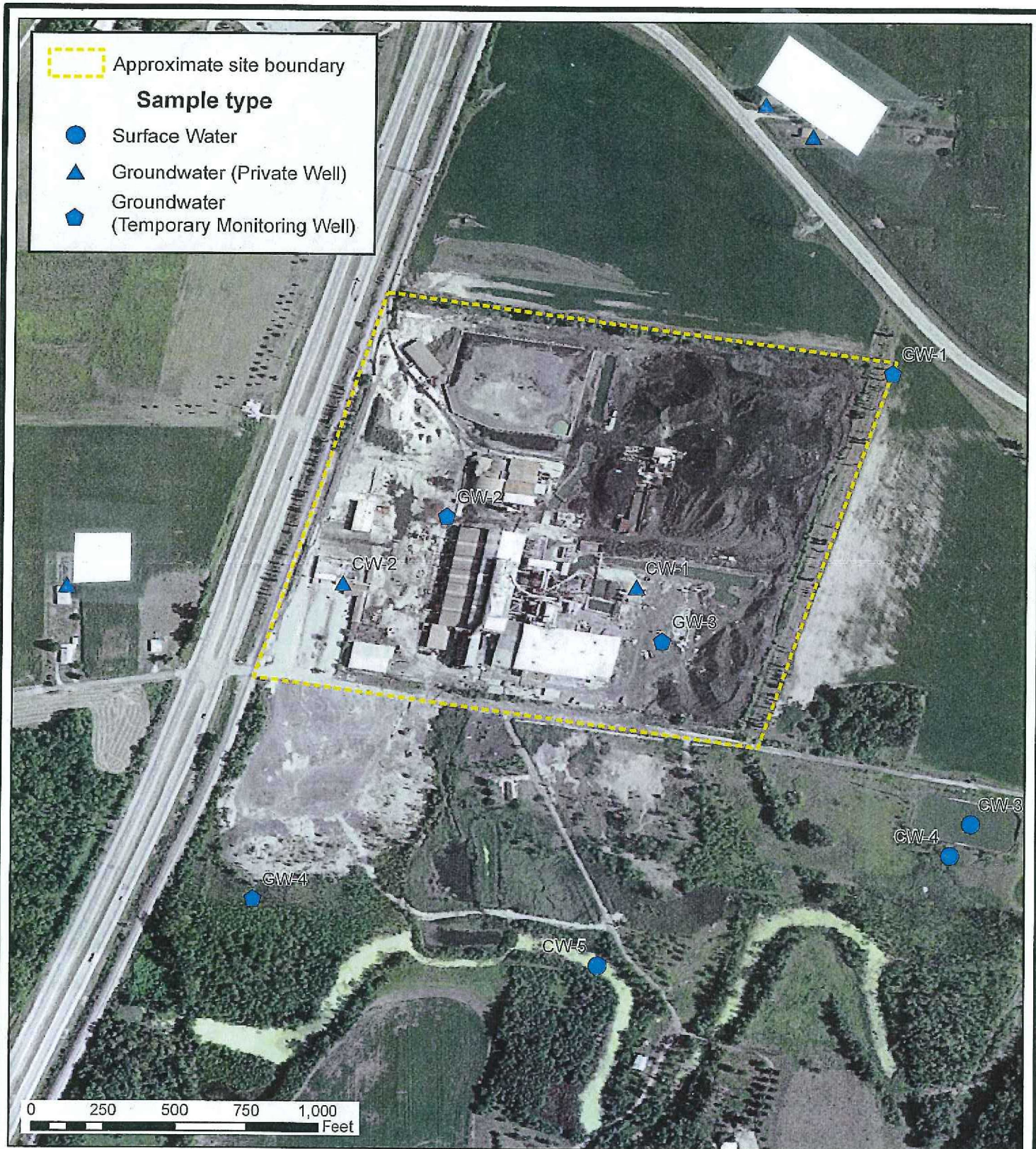
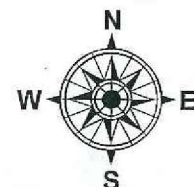


Figure 4  
Groundwater and Surface Water Sampling Map  
Chemetco Superfund Site, Hartford, Illinois



Seagull Environmental Technologies, Inc.



Source: U.S. Geological Survey

Date: December 2010

Project No: EPDTO5.00003



**ATTACHMENT C**

**FIELD SAMPLING PLAN**

## **FIELD SAMPLING PLAN**

for the

### **CHEMETCO SUPERFUND SITE HARTFORD, ILLINOIS**

**CERCLIS ID No. ILD048843809**

Seagull Environmental Technologies, Inc. (Seagull) will mobilize to the Chemetco site on January 10<sup>th</sup>, 2011 and will demobilize from the site on January 12<sup>th</sup>, 2011. Locations associated with the Chemetco Superfund Site where samples are proposed to be collected by Seagull on January 11<sup>th</sup> and 12<sup>th</sup>, 2011 and submitted for laboratory analysis are included in tables below (excluding quality assurance/quality control [QA/QC] samples). The priorities of the sample locations specified in the tables were authorized by U.S. Environmental Protection Agency (EPA) Region 5 personnel.

**TABLE 1  
RESIDENTIAL SOIL AND GROUNDWATER SAMPLES  
CHEMETCO SUPERFUND SITE  
HARTFORD, ILLINOIS**

<b>Water Well Sample ID</b>	<b>Soil Sample ID</b>	<b>Location Description</b>
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**TABLE 2**  
**GROUNDWATER AND SURFACE WATER SAMPLES**  
**CHEMETCO SUPERFUND SITE**  
**HARTFORD, ILLINOIS**

Sample ID	Depth (feet)	Location Description
CW - 1	120	Facility deep well
CW - 2	0	Facility tap non - potable
CW - 3	0	Storm water basin
CW - 4	0	Storm water outfall
CW - 5	0	Long Lake south of site

Notes:

ID Identification

**TABLE 3**  
**SOIL AND SURFACE WIPE SAMPLES**  
**CHEMETCO SUPERFUND SITE**  
**HARTFORD, ILLINOIS**

Sample ID	Sample Type	Depth (inches)	Location Description
OS -1	Soil	1 - 3	Lewis and Clark Center
OS -2	Soil	1 - 3	Lewis and Clark Center
OS -3	Surface wipe	0	Lewis and Clark Center picnic table
OS -4	Surface wipe	0	Lewis and Clark Center picnic table
CS -5	Soil	1 - 3	North of facility
CS -6	Soil	1 - 3	East of facility
CS -7	Soil	1 - 3	South of facility
CS -8	Soil	1 - 3	Southeast of facility
CS -9	Soil	1 - 3	Center of facility
CS -10	Soil	1 - 3	Background

Notes:

ID Identification

**TABLE 4**  
**TEMPORARY MONITORING WELL SAMPLES**  
**CHEMETCO SUPERFUND SITE**  
**HARTFORD, ILLINOIS**

Sample ID	Depth of sample (feet bgs)	Location Description
GW - 1	5 - 20	Up - gradient of site
GW - 2	5 - 20	Central portion of site
GW - 3	5 - 20	Central portion of site
GW - 4	5 - 20	Down gradient of site

Notes:

ID      Identification  
bgs      Below ground surface